AMIGO INSTRUCTION SET

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
00	STACK OPS			00	NUP					40	DEL				
				01	DELB					41	*****				
				02	DDEL					42	QDUP				
				03	*****					43	STAX				
				04	INCX					44	LDXA				
				05	DECX					45	DUP				
				06	ZERO					46	DDUP				
				07	DZRO					47	FLT				
				10	DCMP					50	FCMP				
				11	DADD					51	FADD				
				12	DSUB					52	FSUB				
				13	DMPY					53	FMPY				
				14	DDIV					54	FDIV				
				15	DNEG					55	FNEG				
				16	DXCH					56	CAB				
				17	CMP					57	LCMP				
				20	ADD					60	LADD				
				21	SUB					61	LSUB				
				22	MPY					62	LMPY				
				23	DIV					63	LDIV				
				24	NEG					64	NOT				
				25	TEST					65	OR				
				26	QTST					66	XOR				
				27	DTST					67	AND				
				30	DFLT					70	FIXR				
				31	*****					71	FIXT				
				32	XCH					72	FADD				
				33	QXCH					73	FSUB				
				34	*****					74	EMPY				
				35	XAX					75	EDIV				
				36	ADAX					76	ENEG				
				37	ADXA					77	ECMP				

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
01	SUB OPCODE 1			X	00	ASL				SHIFT COUNT					
				X	01	ASR				"	"				
				X	02	LSL				"	"				
				X	03	LSR				"	"				
				X	04	CSL				"	"				
				X	05	CSR				"	"				
					06	*****									
					07	*****									
					10	*****									
					11	*****									
					12	XEXF								TYPE	
					13	XDPF								"	
				I	14	BCY				+/-	P-REL Displacement				
				I	15	BNCY				+/-	" "				
					16	*****									
					17	*****									
				X	20	DASL				SHIFT COUNT					
				X	21	DASR				"	"				
				X	22	DLSL				"	"				
				X	23	DLSR				"	"				
				X	24	DCSL				"	"				
				X	25	DCSR				"	"				
				I	26	CPRB				+/-	P-REL Displacement				
					27	*****									
				I	30	BOV				+/-	P-REL Displacement				
				I	31	BNOV				+/-	" "				
				X	32	TBM				BIT POSITION					
				X	33	TRBM				" "					
				X	34	TSBM				" "					
					35	*****									
				I	36	BRO				+/-	P-REL Displacement				
				I	37	BRE				+/-	" "				

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
02	SUB OPCODE 2			00	MOVE OPS			0	MOVE		P/D	O	D	SDEC	
								1	MVB		P/D	O	D	"	
								2	SCW		P/D	O	D	"	
								3	SCU		P/D	O	D	"	
								4	MVBW		N	A	U	"	
								5	CMPB		P/D	O	D	"	
					MINI OPS			14	RSW					0	0
								14	LLSH					0	1
								14	CWLB					1	0
								14	CBLW					1	1
								15	PLDA					0	0
								15	PSTA					0	1
								15	CLAA					1	0
								15	GEL					1	1
								16	LSEA					0	0
								16	SSEA					0	1
								16	LDEA					1	0
								16	SDEA					1	1
								17	EXIT					0	0
								17	LOCK					0	1
								17	MCS					1	0
								17	UNLK					1	1

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
02	SUB OPCODE 2			01	*****			OPTIONAL ENTRIES							
				02	LDI			IMMEDIATE OPERAND							
				03	LDXI			" "							
				04	CMPI			" "							
				05	ADDI			" "							
				06	SUBI			" "							
				07	MPVI			" "							
				10	DIVI			" "							
				11	PSHR			SB	DB	DST	DL	Z	STA	O	S
				12	LDNI			IMMEDIATE OPERAND							
				13	LDXN			" "							
				14	CMPN			" "							
				15	*****										
				16	*****										
				17	SETR			SB	DB	DST	DL	Z	STA	O	S

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
03	SUB OPCODE 3			00	SPECIAL OPS			00	*****						
								01	PAUS			K FIELD			
								02	IOFI					0	0
								02	ION					0	1
								02	INIT					1	0
								02	IOCL					1	1
								03	XCHG					0	0
								03	PSDB					1	1
								03	DISP					1	0
								03	PSEB					1	1
								04	SMSK						0
								04	ROCL						1
								05	RMSK					0	0
								05	RCLK					0	1
								05	*****					1	0
								05	SCCR					1	1
								06	XEQ			K FIELD			
								07	SIOP						0
								07	HIOP						1
								10	RIOB			K FIELD			
								11	WIOB			" "			
								12	RIOC			" "			
								13	WIOC			" "			
								14	DBUG			" "			
								15	IPI			" "			
								16	SDMP			" "			
								17	HALT			" "			
				01	*****										
				02	PCAL			STT ENTRY #N							
				03	EXIT			N FIELD							
				04	SXIT			" "							
				05	ADXI			IMMEDIATE OPERAND							
				06	SBXI			" "							
				07	LLBL			PL - DISPLACEMENT							
				10	*****										
				11	*****										
				12	ADDS			IMMEDIATE OPERAND							
				13	SUBS			" "							
				14	*****										
				15	*****										
				16	*****										
				17	ANDI			IMMEDIATE OPERAND							

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
04	LOAD			X	I	PDOS ADR MODE & DISPLACEMENT									
05	MTBA			0	I	0	+/-	P-REL DISPLACEMENT							
	TBA			1	I	0	"	" "							
	STOR			X	I	1		DOS ADR MODE & DISPLACEMENT							
06	LDB			X	I	0		P-REL	"	"	"	"			
	CMPM			X	I	1		DOS	"	"	"	"			
07	ADDM			X	I	PDOS		"	"	"	"				
10	LDD			X	I	0		P-REL	"	"	"	"			
	SUBM			X	I	1		DOS	"	"	"	"			
11	QLD			X	I	PDOS		"	"	"	"				
12	INCM			X	I	0		DOS	"	"	"	"			
	DSTR			X	I	1		"	"	"	"				
13	LDX			X	I	PDOS		"	"	"	"				
14	BR			X	I	0	+/-	P-REL DISPLACEMENT							
	BR			X	I	1		DOS ADR MODE (IND) & DISPLACEMENT							
	BCC			I	0	1		CCG	CCE	CCL	+/-	P-REL DISPLACEMENT			
15	LDB			X	I	0		DOS ADR MODE & DISPLACEMENT							
	LDD			X	I	1		"	"	"	"	"			
16	STB			X	I	0		"	"	"	"	"			
	STD			X	I	1		"	"	"	"	"			
17	LRA			X	I	PDOS		"	"	"	"				

***** DENOTES SPARE

8/4/75